



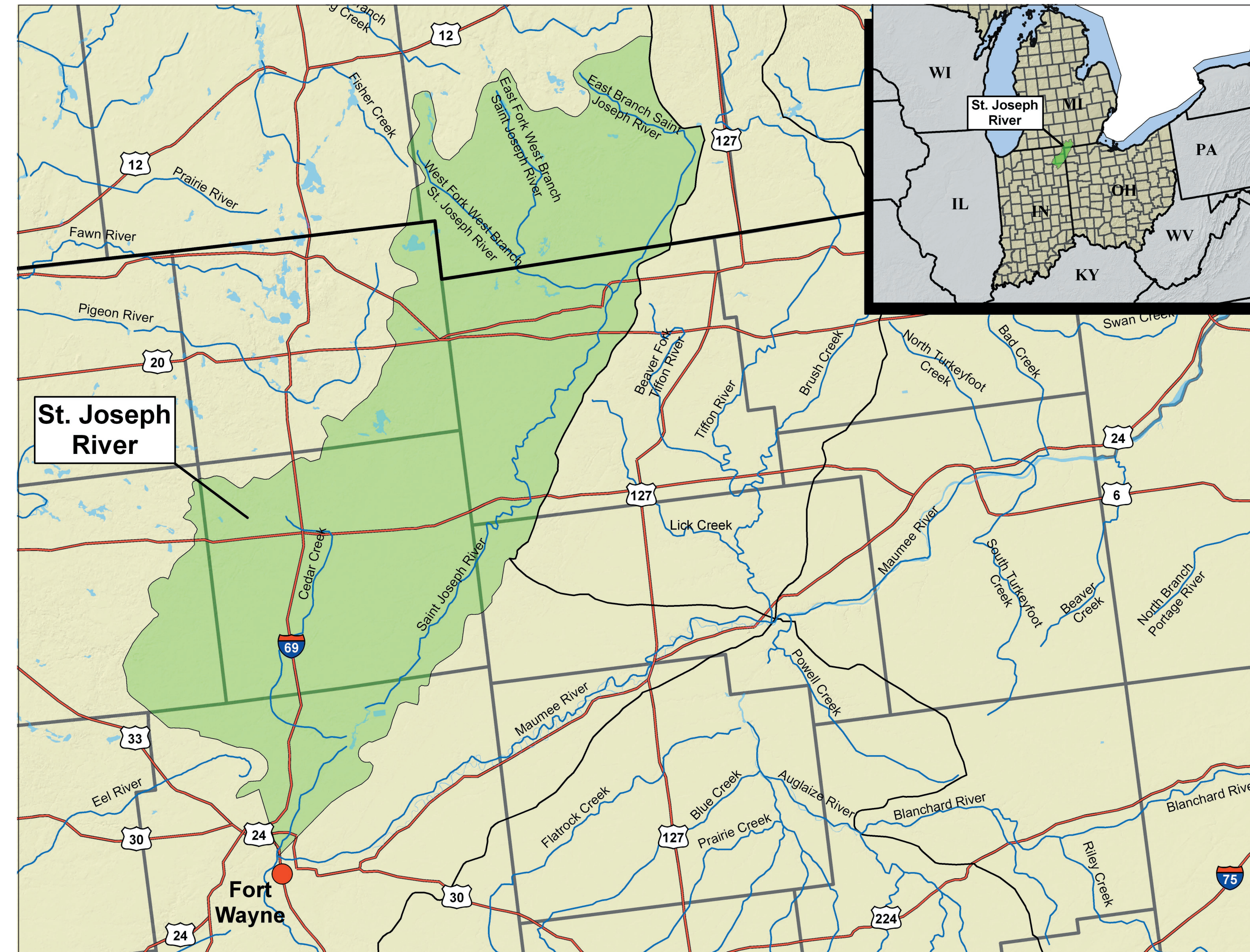
United States Department of Agriculture

Conservation Effects Assessment Project (CEAP)

St. Joseph River Watershed, Indiana: 2004-2006



An ARS* Benchmark Research Watershed, one of 24 CEAP watershed projects.



CEAP Assessment

Evaluate water quality, soil quality, and wildlife benefits of practices to reduce pesticide, nutrient, and sediment water pollution.

Watershed Description

- 175,370 acres
- 64% cropland; 15% pasture/forage; 10% forest, wetlands; and 11% urban/industrial
- Participant in Clean Water Act's Section 319 Nonpoint Source Pollution Program.

Issues: Runoff from farms carries atrazine and other pesticides, nutrients, and soil to St. Joseph River which provides drinking water for the 200,000 residents of Fort Wayne, IN.

*Agricultural Research Service

Approach

Water sampling: Sediment, phosphorus, nitrate-nitrogen, ammonia, and pesticides

Watershed models: SWAT (Soil and Water Assessment Tool) with weather input and AnnAGNPS (Annualized Agricultural Non-Point Source)

Paired sub watersheds: Compare surface runoff, subsurface drainage, and stream level water quality parameters with and without best management practices on two sub watersheds.

Communicating Results

Planned: Three annual progress reports, Geographical Information System watershed database, baseline water quality data set for watershed of Cedar Creek, largest tributary of St. Joseph; and calibration, validation of SWAT and AnnAGNPS for Cedar Creek Watershed.



Student worker Shaun Moore is collecting sediments from a recently dredged ditch for laboratory experiments.

Collaborators

- USDA, Natural Resources Conservation Service
- America's Clean Water Foundation
- Soil and Water Conservation Districts
- St. Joseph River Watershed Initiative
- City of Fort Wayne
- Indiana Department of Natural Resources
- Indiana Department of Environmental Management
- Purdue University Cooperative Extension
- Purdue University Agricultural Economics Department



Typical automated water quality sampler setup in a ditch draining a 10,400 acre watershed.

Contacts

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NRCS State Conservationist
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Field scale automated sampling site utilizing a modified drop box weir developed by ARS scientists at Coshocton, Ohio.

Timeline											
2003 Initial funding	2004 August CEAP bibliographies	2005 May Wetlands peer review	July Wildlife literature review (program-based)	October Cropland literature review Wildlife literature review (practice-based) Wildlife Work Plan	November Wetlands Work Plan	December Draft findings—Prairie Pothole region 1st ARS Benchmark Watersheds progress report					
2006 February Preliminary habitat quality models— Prairie Potholes wetland region	March Preliminary National Assessment Report		December 2nd ARS Benchmark Watersheds progress report	2007 Fall National Assessment Final Report	December 3rd ARS Benchmark Watersheds progress report	2008 December 4th ARS Benchmark Watersheds progress report					